

## CLAIMS

## I CLAIM:

1. An electrostatic device for converting source fluids to energized fluids, said device comprising:

a fluid conduit;

a voltage spike signal generator for generating at least one voltage spike signal;

at least first and second radio frequency Rf signal generators for generating at least two different Rf signals having controlled frequencies; and

at least one antenna disposed in said fluid conduit for generating at least two different Rf signals having controlled frequencies;

wherein:

said at least one antenna emits into a source fluid in said fluid conduit a combination signal comprising said at least one voltage spike signal and said at least two different Rf signals to form an energized fluid which can provide a measurable benefit to at least one of a living organism, machinery, equipment, process, and substance.

2. The device of Claim 1 further comprising at least one signal booster which boosts the amplitude of at least one of said combination signal and said at least two different Rf signals having controlled frequencies.

3. The device of Claim 1, wherein each of said at least first and second Rf signal generators can form a respective combination sub-signal comprising at least one controlled Rf signal and at least a portion of said voltage spike signal.

4. The device of Claim 3, wherein at least one of said first and second Rf signal generators can also perform at least one of the following functions:

split the voltage spike signal into two or more different voltage spike subsignals;

invert the voltage spike signal;

amplify the voltage spike signal; and

multiply the voltage spike signal.

5. The device of Claim 1 wherein a frequency of said voltage spike signal has a frequency which is at least tenfold less than the frequency of an Rf signal.

6. The device of Claim 1 wherein said at least one antenna is an antenna array comprising two or more antennas disposed in said fluid conduit.

7. The device of Claim 1, wherein said fluid conduit comprises an influent port and an effluent port.

8. The device of Claim 3 further comprising one or more signal boosters adapted to boost the amplitude or voltage of one or more of said combination signal, said at least one voltage spike signal, said combination sub-signal and one or more of said at least two different Rf signals.

9. The device of Claim 1 wherein said voltage spike signal and said two or more different Rf signals are synchronized.

10. An energized fluid prepared with the device of Claim 1, wherein said energized fluid can bear a negative charge for a period of at least one day after being formed by said electrostatic device.

11. The energized fluid of Claim 10 wherein said energized fluid is derived from a source fluid comprising at least one of water, a water based solution, and an organic solution.

12. The energized fluid of Claim 10 wherein said energized fluid is selected from the group consisting of water, juice, soda, pharmaceutical liquid formulation, gasoline, oil, nutritional drink, liquid dietary supplement, beverage, pesticide concentrate, and herbicide concentrate.

13. The energized fluid of Claim 10, wherein said energized fluid can provide one or more of the following benefits:

increase milk production in dairy cattle;

increase meat production in cattle;

increase meat production in animals including poultry, cattle and swine;

improve crop yield;

improve pest resistance in crops;

improve overall crop health;

improve crop grass growth and overall condition;

increase crop productivity;

improve overall animal health;

improve animals' resistance to disease and infection;

increase growth rates and production rates in plants and animals;

improve plant drought tolerance;

reduce perceived bitterness in beverages;

reduce scale formation and build up in fluid conduits;

enhance flavor in drinks using syrups or concentrates thereby reducing the amount of syrup or concentrate required to provide an acceptable flavor;

reduce the drying time for at least one of concrete and cement;

increase efficacy of at least one of a fertilizer, nutrient, herbicide, or pesticide for plants;

improve leaching of salts from upper soil into subsoil;  
control algae;  
control or killing of bacteria; and  
enhance the efficacy of pharmaceutical or neutraceutical solutions.

14. A method of increasing milk production in dairy cattle comprising the steps of:

treating a water-containing source fluid with the device according to Claim 1 to form an energized fluid; and  
administering to dairy cattle an effective amount of said energized fluid for a period of time sufficient to increase milk production in said dairy cattle by at least 5% by volume with respect to milk production achieved by administering said source fluid to said dairy cattle.

15. A method of increasing the octane rating in gasoline comprising the steps of:

treating a source gasoline with a device according to Claim 1 for a period of time sufficient to form an energized gasoline having a final octane rating that is at least 5% greater than the octane rating of said source gasoline.

16. A method of preparing cement having a reduced drying time comprising the steps of:

treating a source water with a device according to Claim 1 to form an energized water;  
mixing said energized water with a mixture to form a wet mass of cement having a drying time that is at least 40% shorter than a corresponding mass of cement made with said source water.

17. A method of increasing meat production in at least one of poultry, swine, and cattle comprising the step of:

treating a water-containing source fluid with a device according to Claim

1 to form an energized fluid; and

administering to said at least one of poultry, swine, and cattle an effective amount of said energized fluid for a period of time sufficient to provide at least one of poultry, swine and cattle having a meat mass which is greater than a meat mass of poultry, swine, and cattle, respectively, being administered said source fluid.

18. A method of increasing a nutritional value of a feed grass comprising the steps of:

treating a water-containing source fluid with a device according to Claim

1 to form an energized water-containing fluid; and

administering to said feed grass an effective amount of said energized water based fluid for a period of time sufficient to form an improved feed grass having a nutritional component present in a first amount which is greater than a corresponding second amount in said feed grass that has been treated with said water-containing source fluid.

19. A method of Claim 18 wherein said feed grasses are selected from a group consisting of:

Rhodes grass, alfalfa, lawn grass, sod grass, barley, wheat, rye, Saint Augustine grass, tiff green grass, Bermuda grass, Clover grass, Johnson grass, Sand Love grass, bluegrass, blue stem grass, Gramma Green grass, buffalo grass, clover grass, prairie grass, hay, and dichondra grass.

20. A method of increasing crop production comprising the step of:  
treating a water-containing source fluid with a device according to Claim  
1 to form an water-containing energized fluid; and  
treating a crop with an effective amount of said energized fluid for a  
period of time sufficient to increase a production of said crop with  
respect to a corresponding production which would be obtained by  
treating said crop with said source fluid.
21. The method of Claim 20 wherein said crop is selected from the group  
consisting of:  
wheat, barley, tomatoes, peppers, cauliflower, broccoli, strawberries,  
lettuce, onion, cabbage, melons, grapes, dates, citrus fruits,  
potatoes, corn, peanuts, lettuce, squash, fruit tree crop, and fruit  
bush crop.
22. A method of producing an energized beverage having reduced beverage  
concentrate comprising the steps of:  
treating a source water with a device according to Claim 1 to form an  
energized water;  
treating a source beverage concentrate with a device according to Claim 1  
to form an energized beverage concentrate; and  
mixing said energized water and said energized beverage concentrate to  
form an energized beverage;  
wherein said energized beverage requires less beverage concentrate to  
perform substantially the same as a corresponding unenergized  
beverage in a taste test.
23. An improved method of combusing a fluid comprising the steps of:  
treating a source fluid with a device according to Claim 1 to form an  
energized fluid; and  
combusting said energized fluid in a stack;

5 wherein combustion of said energized fluid results in at least one of a  
lower carbon dioxide emission level, a lower smoke emission  
level, a lower required stack temperature, and improved flame  
performance as compared to combustion of said source fluid in  
said stack.

10 24. A method of tracking a fluid flowing through a fluid conduit comprising  
the steps of:

treating a fluid flowing through a first point of a fluid conduit with a  
device according to Claim 1 to energize said fluid; and

5 monitoring a property of said fluid at a downstream second point of said  
fluid conduit to determine whether said fluid has been energized;  
wherein a change in said property corresponds substantially with a change  
in energy of said fluid.

25. An improve method of producing shrimp comprising the steps of:

treating a salt water source with a device according to Claim 1 to form energized salt  
water; and

5 treating a first group of shrimp with an effective amount of said energized salt water for a  
period of time sufficient to at least one of increase the production of, increase the  
survival rate of, reduce the feed requirement of and reduce the time-to-market of  
said first group of shrimp as compared to a substantially similar second group of  
shrimp not treated with said energized salt water.

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